

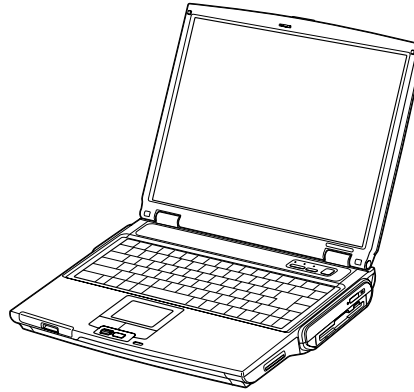
PCG-NVR23

SERVICE MANUAL

*For American Area
US Model*

Ver 5-2005E

Revision History



Lineup : PCG-NVR23



Confidential

- Design and specifications are subject to change without notice.

NOTEBOOK COMPUTER

SONY®

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Caution Markings for Lithium/Ion Battery - The following or similar texts shall be provided on battery pack of equipment or in both the operating and the service instructions.

CAUTION: Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

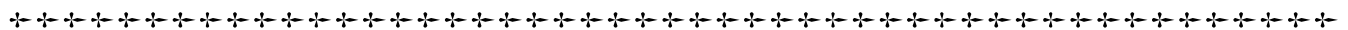
CAUTION: The battery pack used in this device may present a fire or chemical burn hazard if mistreated. Do not disassemble, heat above 100°C (212°F) or incinerate.

Dispose of used battery promptly.

Keep away from children.

CAUTION: Changing the back up battery.

- Overcharging, short circuiting, reverse charging, mutilation or incineration of the cells must be avoided to prevent one or more of the following occurrences; release of toxic materials, release of hydrogen and/or oxygen gas, rise in surface temperature.
- If a cell has leaked or vented, it should be replaced immediately while avoiding to touch it without any protection.



Service and Inspection Precautions

1. Obey precautionary markings and instructions

Labels and stamps on the cabinet, chassis, and components identify areas requiring special precautions. Be sure to observe these precautions, as well as all precautions listed in the operating manual and other associated documents.

2. Use designated parts only

The set's components possess important safety characteristics, such as noncombustibility and the ability to tolerate large voltages. Be sure that replacement parts possess the same safety characteristics as the originals. Also remember that the Δ mark, which appears in circuit diagrams and parts lists, denotes components that have particularly important safety functions; be extra sure to use only the designated components.

3. Always follow the original design when mounting parts and routing wires

The original layout includes various safety features, such as inclusion of insulating materials (tubes and tape) and the mounting of parts above the printer board. In addition, internal wiring has been routed and clamped so as to keep it away from hot or high-voltage parts. When mounting parts or routing wires, therefore, be sure to duplicate the original layout.

4. Inspect after completing service

After servicing, inspect to make sure that all screws, components, and wiring have been returned to their original condition. Also check the area around the repair location to ensure that repair work has caused no damage, and confirm safety.

5. When replacing chip components...

Never reuse components. Also remember that the negative side of tantalum capacitors is easily damaged by heat.

6. When handling flexible print boards...

- The temperature of the soldering-iron tip should be about 270°C.
- Do not apply the tip more than three times to the same pattern.
- Handle patterns with care; never apply force.

Caution: Remember that hard disk drives are easily damaged by vibration. Always handle with care.

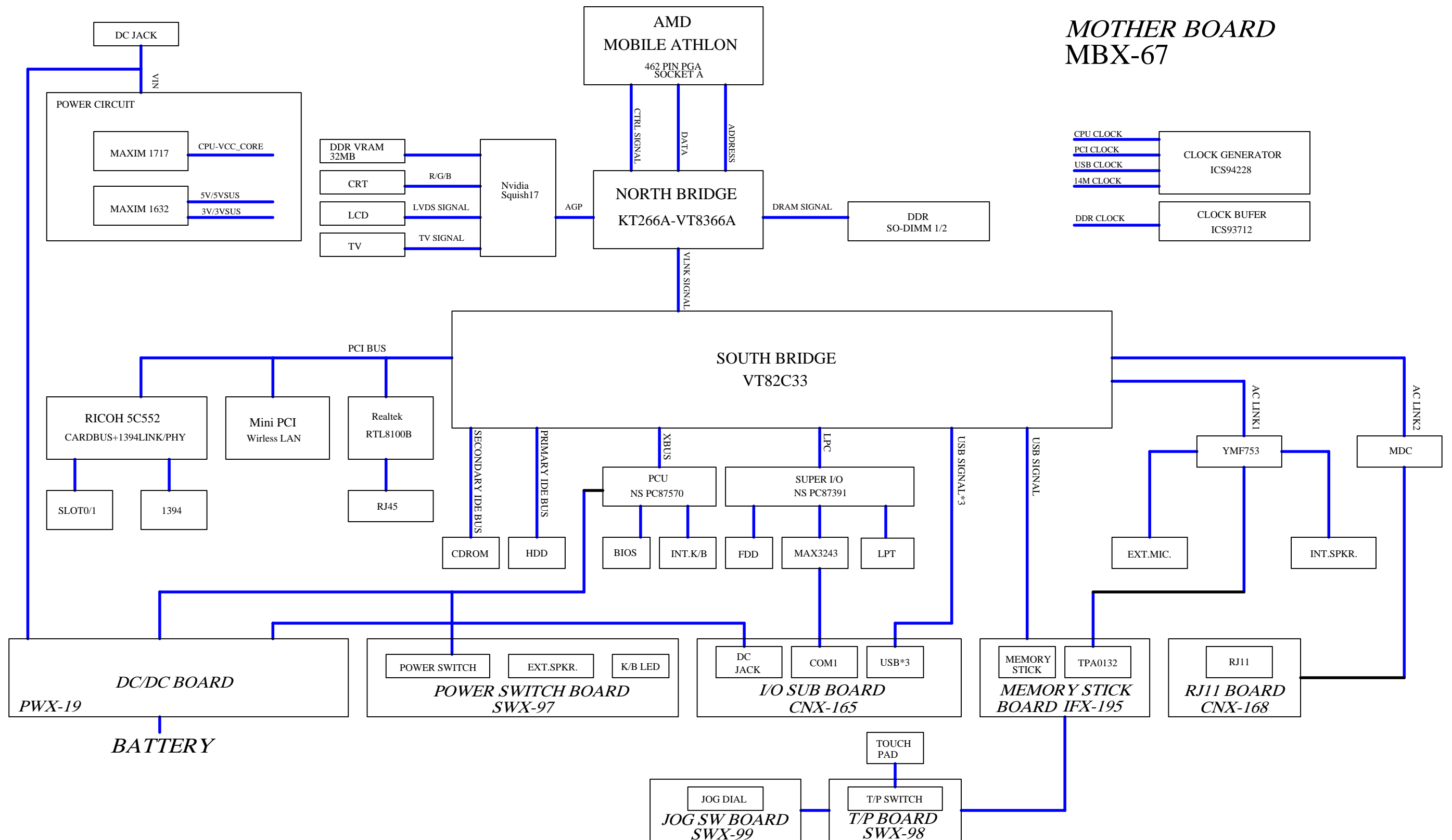
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History of the changes is shown as the
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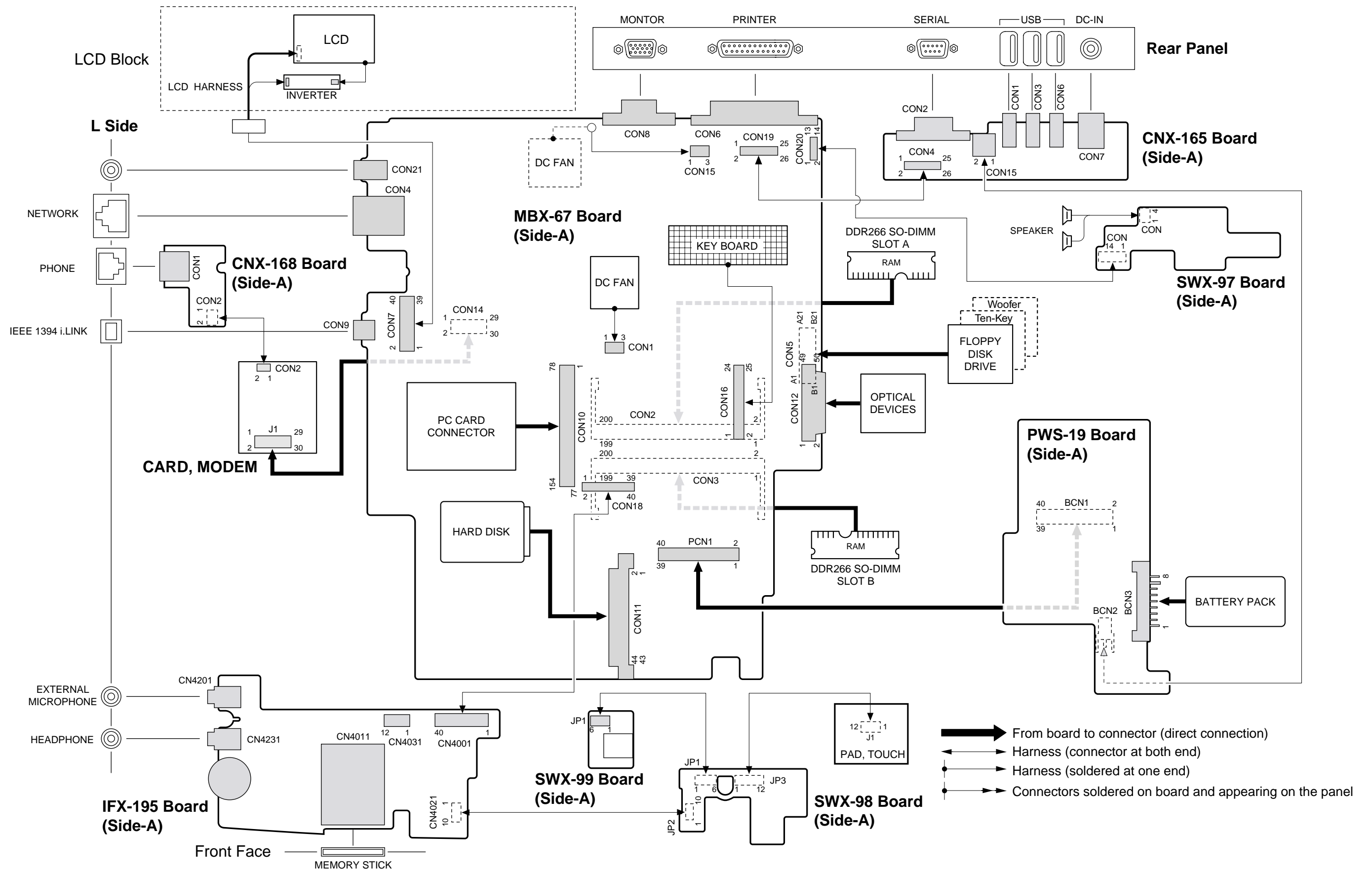
CHAPTER 1.

BLOCK DIAGRAM



CHAPTER 2.

FRAME HARNESS DIAGRAM





CHAPTER 3.

EXPLODED VIEWS AND PARTS LIST

NOTE:



- Items marked “ * ” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- When two or more parts are shown in parallel, use the part described first as the main part.
- The parts marked “ \$ ” are the High Value Modules.
- The parts marked “ # ” are the parts on which barcode label is attached.
- The indication [CH] is used for identification of part type.
- Regarding the boards of this model, the discrete parts on the boards cannot be replaced. However, Some connectors can be replaced.

The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

*1 The parts marked “&” are the “Customer Replaceable Parts (CRP)” that can be replaced by Field Customer Support. Especially the parts with the <&> mark require the special attention to use them. Therefore, check first whether the desired part is one of the targeted parts of the Customer Replaceable Parts (CRP), or the non-targeted parts by referring to the exploded view.

【使用上の注意】

- * 印の部品は常備在庫しておりません。
- 図面番号のない部品は供給しません。
- 併記部品の場合, 上部記載部品をメイン部品として使用してください。
- 部品名称の前に \$ 印のついた部品は, High Value Module です。
- 商品名称の前に # 印のついた部品は, バーコードラベル貼付部品です。
バーコードラベルについてはCHAPTER 5を参照してください。
- [CH]の表記は部品管理上の識別です。
- 本モデルの基板については, 基板上の各部品の修理は行うことができません。ただし, 一部のコネクタについては, 修理可能です。

 印の部品, または  印付きの点線で囲まれた部品は, 安全性を維持するために重要な部品です。従って交換時は, 必ず指定の部品を使用してください。

*1 部品名称の前に&印のついた部品は, お客様窓口でも交換可能なCustomer Replaceable Parts (CRP)です。
特に<&>のついた部品は, 使い分けが必要な部品ですので, 分解図でCustomer Replaceable Parts対象部品か, 対象外部品かを必ずご確認ください。

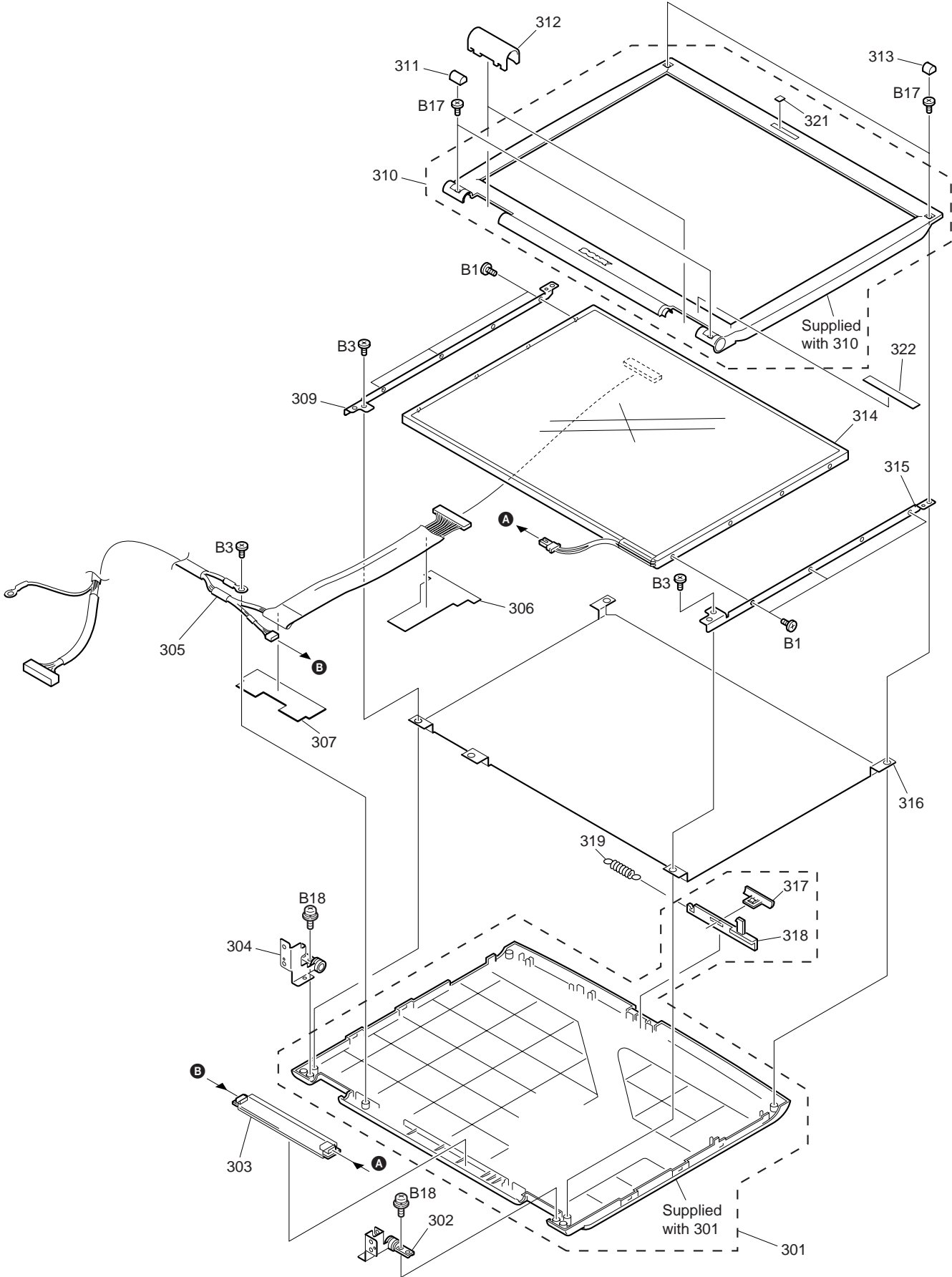
3-1. Main Section

Ref.No.	Part No.	Description
1	X-4625-403-1	& ASSY MEMORY COVER
3	X-4625-404-1	& ASSY MINI PCI COVER
4	4-661-307-01	& FOOT FRONT
6	4-665-215-01	INSULATOR BOTTOM
7	4-661-164-01	& MODEM COVER
8	4-661-113-01	HDD DOOR
10	4-665-206-01	BRACKET HDD
11	4-665-203-01	SHEET HDD
12	A-8059-344-A	\$ # ASSY HDD 30GB (T,20,F) (S)
13	X-4624-895-1	& [CH]...ASSY FOOT REAR
14	X-4624-634-2	ASSY SIDE I/O DOOR
15	4-662-543-01	& LABEL SIDE I/O
16	4-663-865-02	CUSHION SIDE I/O
* 17	X-4624-884-1	ASSY 2ND FAN GUIDE
18	9-885-029-06	FAN, DC (2nd)
19	4-662-704-01	SHEET 2ND FAN
20	4-662-542-01	& LABEL I/O
21	4-661-116-02	& I/O DOOR
* 22	4-665-214-01	SUPPOT BRACKET
23	X-4624-878-1	ASSY BOTTOM HOUSING
24	4-662-375-01	& FOOT CENTER
25	4-661-112-01	& BATT DOOR LINK
26	4-661-115-02	& BATT DOOR
28	1-756-148-11	SECONDARY BATTERY, LITHIUM
29	4-664-565-01	CUSHION BOTTOM C
[COR] 30	A-8059-969-A	ASSY BAY FD (TE)
31	X-4624-627-2	ASSY FDD BOTTOM
32	1-816-578-11	CONNECTOR, BAY 26P 1MM
33	1-824-587-21	FFC (26P)
34	4-661-092-01	FDD TOP BRACKET
36	1-796-231-21	\$ # FDD (FD-05HG-7771)
37	4-662-995-02	GROUND PLATE C (HI)
* 38	4-661-091-01	BRACKET C
39	1-796-437-11	\$ # COMBO DRIVE (GCC-4160N)
40	X-4624-794-3	ASSY BEZEL C (HI)
41	1-961-764-11	HARNESS (DC)
43	4-664-567-01	CUSHION HDD GUIDE
44	4-665-242-01	HDD GUIDE
45	4-661-673-01	INSULATOR PC-CARD
* 46	4-665-213-01	HDD SUPPORT GROUNDING
47	4-665-240-01	INSULATOR HDD
48	A-8067-372-A	\$ # [CH]...MBX-67 (S)
49	A-8067-373-A	\$ [CH]...COMPLE PWB CNX-168
50	X-4624-725-1	SIDE I/O BRACKET ASSY
51	4-661-163-01	LAN DOOR
52	4-662-544-01	SHEET SIDE I/O
53	9-885-029-03	CONNECTOR, PC CARD(EJECTOR)
54	A-8110-661-A	COOLING UNIT NE4
57	6-702-959-01	IC AXMH1800 FHQ3C (Athlon XP 1800+)
58	X-4624-896-1	I/O BRACKET ASSY
59	4-663-824-01	TAPE CPU (A-XP)
60	1-824-072-21	CABLE, FLEXIBLE FLAT (26PIN)
* 61	4-654-119-11	PLATE (DC)
64	4-668-877-01	INSULATOR PWS
65	A-8067-377-A	\$ [CH]...COMPLE PWB PWS-19
66	4-662-537-01	BLIND FDD
68	X-4624-635-1	ASSY LATCH DETECTOR
69	6-600-116-01	IC M470L3224DT0-CB0
70	1-960-827-61	HARNESS (2 PIN)
71	1-761-380-23	CARD, MODEM

Ref.No.	Part No.	Description
* 74	X-4625-261-1	PALMREST BRACKET L ASSY
75	4-664-050-01	SHEET SUPPORT SCREW
76	1-477-230-12	\$ # KEY BOARD UNIT (U)
77	1-825-142-11	1-BOX STEREO SPEAKER
78	X-4624-637-2	ASSY HOOD KEYBOARD
79	1-824-072-31	CABLE, FLEXIBLE FLAT (14PIN)
80	A-8067-374-A	\$ [CH]...COMPLE PWB SWX-97
81	4-662-547-02	W-LAN SWITCH COVER
82	4-661-172-02	TP BEZEL
83	1-796-319-21	PAD, TOUCH
85	X-4624-874-1	ASSY PALMREST HOUSING
87	X-4624-876-1	PALMREST BRACKET R ASSY
* 90	4-665-300-01	TOUCHPAD BRACKET
91	1-823-813-11	CABLE, FLEXIBLE FLAT 12P
92	1-824-072-71	CABLE, FLEXIBLE FLAT (6PIN)
93	A-8067-375-A	\$ [CH]...COMPLE PWB SWX-98
94	1-824-072-51	CABLE, FLEXIBLE FLAT (10PIN)
* 95	4-664-347-01	JOG PLATE
96	A-8067-376-A	\$ COMPLE PWB SWX-99
97	1-824-072-11	CABLE, FLEXIBLE FLAT (40PIN)
98	A-8067-251-A	\$ COMPLETE PWB IFX-195
99	4-661-551-12	LENS COVER
102	4-664-312-01	SHEET JOG
103	4-665-113-01	SHEET TP-BRACKET BT
104	4-665-226-01	SPACER TPB
105	4-665-227-02	SPACER TBR
106	4-665-228-01	SPACER PRH
108	4-665-016-01	COPPER TAPE BOTTOM A
111	4-665-022-01	CUSHION HDD GUIDE TOP
112	4-665-023-01	CUSHION BOTTOM B
114	4-656-131-01	SHEET MODEM
115	4-641-630-21	& COVER BAY HOLE
125	4-661-088-01	FDD LATCH LEVER
126	4-661-090-01	FDD LATCH SPRING
127	4-661-093-02	FDD LATCH BUTTON
130	A-8059-514-A	ASSY BAY KEY [COR]
131	4-661-125-01	BAY K TOP BRACKET
132	1-816-577-11	CONNECTOR, BAY 4P 1MM
133	1-824-587-11	FFC (4P)
134	1-477-344-12	KEY UNIT, 10
135	4-661-127-03	BAY K BOTTOM
136	4-661-128-01	BAY K FOOT
137	4-661-129-01	BAY K SPRING
138	4-661-134-01	BAY K BEZEL
139	4-662-551-01	BAY K COVER
* 141	4-665-232-01	FIN GND
* 142	4-665-234-01	USB GND
143	4-668-785-01	THERMAL SHEET CPU
144	4-668-376-01	COPPER SHEET PALMREST
145	4-669-667-01	SHEET SWITCH
146	4-669-666-01	GASKET (T1X9X9)
147	4-669-668-01	SHEET KEYBOARD
148	4-669-663-01	GASKET (T1X5X50)
149	4-669-665-01	GASKET (T1X5X7)
150	4-669-664-01	GASKET (L-TYPE)

Ref.No.	Part No.	Description
B1	4-665-205-01	SPECIAL FLAT HEAD (EG GRIP), M2
B2	4-635-966-01	SCREW (HEX)
B3	4-641-726-12	<&> SCREW (M2), SPECIAL HEAD
B4	4-661-107-01	STAND OFF M2X5
B5	4-644-637-42	<&> GRIP, M2 EG
B6	4-642-852-21	+B M2
B7	4-662-693-03	<&> GRIP M2.6 S-HEAD (EG)
B8	4-644-637-32	GRIP, M2 EG
B9	4-646-807-11	& 0 PLATE M2.5 (FDD)
B10	4-635-301-01	SCREW M3X4
B11	4-654-811-01	& SCREW M3
B12	4-652-498-01	+B M2 (NOJI)
B14	4-661-159-01	STAND OFF M2X8.5
B15	7-622-205-05	NUT M2 TYPE2
B20	4-639-112-01	SCREW M2X4
B21	4-666-474-01	NUMBER 0 SPECIAL HEAD M2.6
B22	4-644-637-71	M2 EG GRIP [ADD]

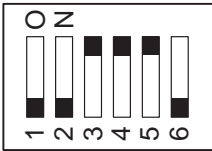
3-2. LCD Section – Made by TS –



Ref.No.	Part No.	Description
301	X-4624-630-4	ASSY DISPLAY HOUSING
302	X-4624-798-2	HINGE 15R
303	1-476-316-31	HINGE 15L
304	X-4624-799-1	HINGE 15L
305	1-961-757-12	LCD HARNESS
306	4-664-943-02	COPPER TAPE LCD CON
307	4-664-944-01	COPPER TAPE LCD ED
* 309	4-664-977-01	LCD-15 BRACKET L2
310	X-4624-629-4	ASSY LCD BEZEL15
311	4-661-297-01	& CUSHION HINGE
312	4-661-135-01	HINGE COVER
313	4-661-296-03	& CUSHION LCD
314	A-8058-271-A \$ #	ASSY LCD 15TO AP (S)
* 315	4-664-978-02	LCD-15 BRACKET R2
316	4-661-101-01	LCD SHIELDING
317	4-661-548-01	LCD HOOK KNOB
318	4-661-157-02	LCD HOOK
319	4-661-158-01	LATCH SPRING
321	4-661-298-03	& CUSHION LATCH
322	4-667-815-01	LABEL ID (UJ)
B1	4-665-205-01	SPECIAL FLAT HEAD (EG GIRP), M2
B3	4-641-726-12	SCREW (M2), SPECIAL HEAD
B17	4-641-726-41	& SCREW (M2), SPECIAL HEAD
B18	4-665-648-01	SCREW M2 EG GRIP WASHER

△ [COR]
A-8110-284-A

NOTE :
Set the DIP switch on the MBX-67 board (Main board) to match with the LCD that is used in this computer.



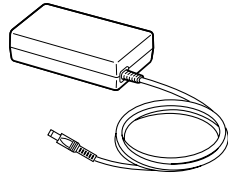
The upper position where ON indication is shown is the ON position . The lower position is the OFF position.

No.	1	2	3	4	5	6
ON/OFF	1	1	0	0	0	1

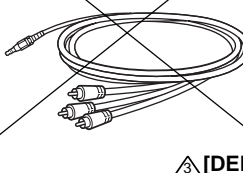
0 : ON 1: OFF

Ref.No.	Part No.	Description
		ACCESSORIES *****
△ 801	1-477-205-42 \$	ADAPTOR, AC
802	A-8110-809-A \$ #	BP2NX SNT (U) ASSY (S)
△ 803	1-757-562-21 &	CORD, POWER
804	1-765-080-32	CORD, CONNECTION △ [DEL]
805	A-8110-962-A &	WEIGHT SAVER ASSY H2
806	A-8059-753-A	WOOFER BAY ASSY
807	A-8059-969-A	ASSY BAY FD(TE)
808	A-8059-514-A	ASSY BAY KEY
	4-664-901-01 &	QUICK START, ANDES △ [COR]

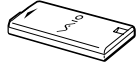
801
AC Adaptor (1)



~~804~~
~~Cord Connection (1)~~



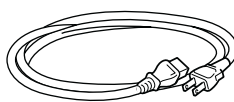
802
Battery Pack (1)



805
Weight Saver (1)

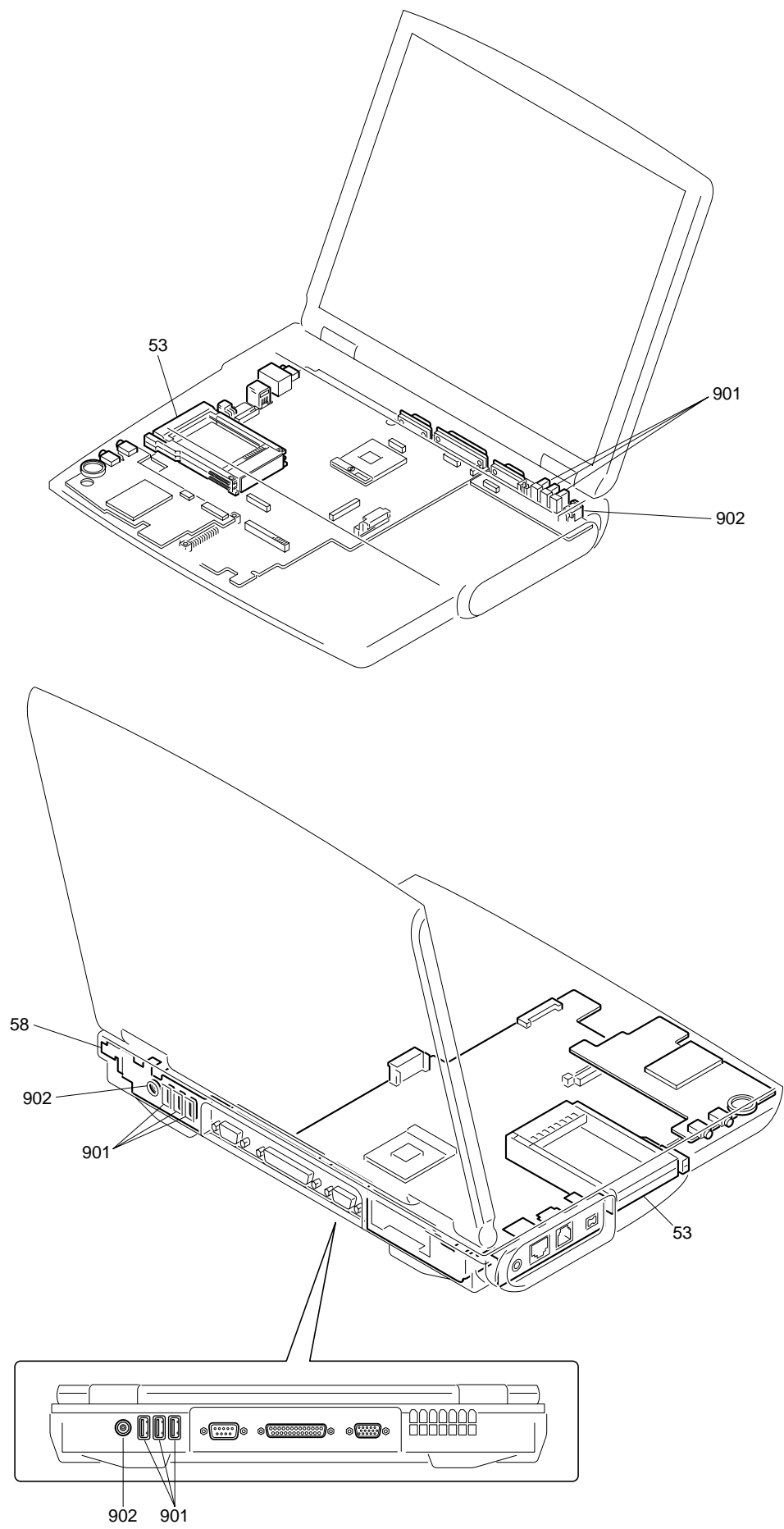


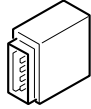
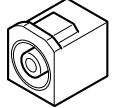
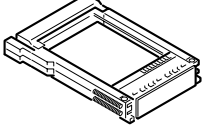
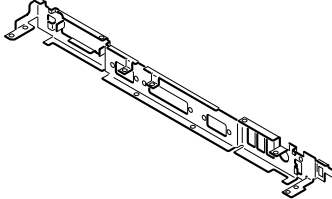
803
Power Cord (1)



The components identified by mark △ or dotted line with mark △ are critical for safety.
Replace only with part number specified.

3-3. Connector Section (CH Type only)

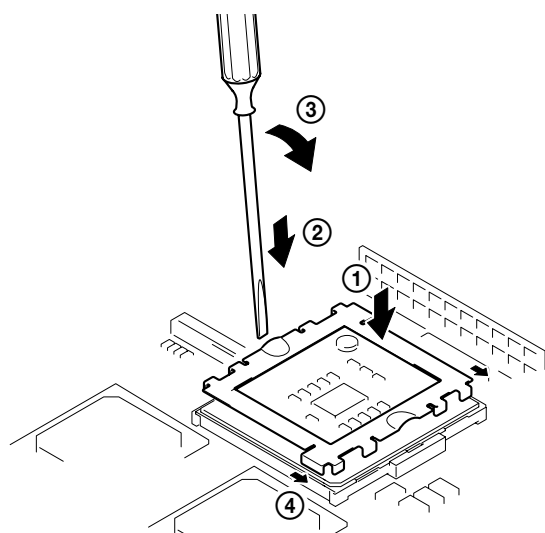


Ref.No.	Fig.	Part No.	Description
901		9-885-029-05	[CH]...CONNECTOR, USB (A) USB connector
902		9-885-029-04	[CH]...JACK, DC DC IN connector
53		9-885-029-03	[CH]...CONNECTOR, PC CARD (EJECTOR) PC Cord Slot connector
58		X-4624-896-1	[CH]...I/O BRACKET ASSY I/O Bracket

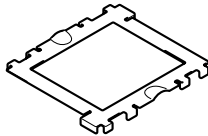
* Among the parts that are used on the boards of this model, only the connectors that are show in the list can be replaced.
(The parts other that the specified connectors cannot be replaced.)

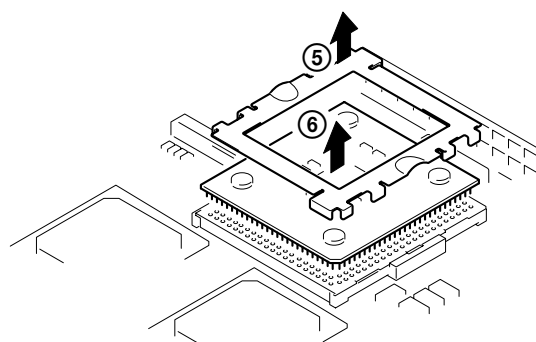
4-1. Replacing the CPU

1. Removing the CPU



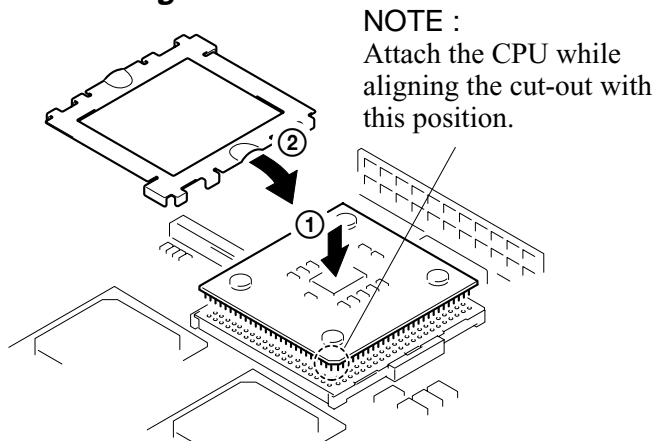
- ① Install the special tool in the CPU.
- ② Insert a flat head (-) screwdriver tip into the groove as shown.
- ③ While holding the special tool, slant the screwdriver in the direction of the arrow.
- ④ The base under the CPU moves slightly in the direction of the arrow and the CPU lock is released.

Fig.	Part No.	Description
	J-2507-309-1	JIG FOR CPU

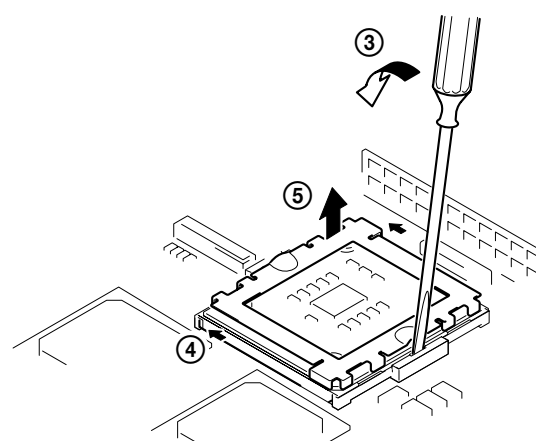


- ⑤ Remove the special tool.
- ⑥ The CPU can be removed upward.

2. Installing the CPU



- ① Insert all pins of the replacement CPU into the holes of the base and push the CPU in the direction of the arrow.
- ② Install the special tool in the CPU.



- ③ Insert a flat head (-) screwdriver tip into the groove as shown. While holding the special tool, slant the screwdriver in the direction of the arrow.
- ④ The base under the CPU moves slightly in the direction of the arrow and the CPU is locked.
- ⑤ Remove the special tool.

NOTE :

- Do not use screwdrivers having a large tip than the width of the groove. Otherwise, it may cause the groove to be damaged.
- When installing the special tool in the CPU, align the convex of the base.

List of PCG-NV Series (As of May, 2005)

Model Name	Service Manual Part No.
PCG-NVR23	9-874-583-XX

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Revision History

Suffix	Ver.	Date	Contents	QM No.
-01	Ver. 1	2002.08.28	First Edition	
-02	Ver. 2	2003.08.22	① Page 3-3, Page 3-4, Page 3-5, Page 3-6, Page 3-8	N2003_060CK
-03	Ver. 3	2003.11.25	② Page 3-8	N2003_106CK
-04	Ver. 4	2005.05.16	③ Page 3-8	N2004_170CK
-05	Ver. 5	2005.05.18	– The CRP information has been added to the PARTS LIST.	–
<div><Remarks></div>				